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MEMORANDUM

TO: Chris Lichens, Remedial Project Manager
Site Cleanup Section 4, SFD-7-4

THROUGH: Rose Fong, ESAT Task Order Manager (TOM) RF
Quality Assurance (QA) Program, MTS-3

FROM: Doug Lindelof, Data Review Task Manager
Region 9 Environmental Services Assistance Team (ESAT)

ESAT Contract No.: EP-W-06-041
Technical Direction Form No.: 00105041 Amendment 3

DATE: February 21, 2007

SUBJECT: Review of Analytical Data, **Tier 2**

Attached are comments resulting from ESAT Region 9 review of the following analytical data:

Site:	Omega Chem OU2
Site Account No.:	09 BC LA02
CERCLIS ID No.:	CAD042245001
Case No.:	Not Provided
SDG Nos.:	G5H310238, G5I010304, and G5I020389
Laboratory:	STL Sacramento
Analysis:	N-Nitrosodimethylamine and 1,2,3-Trichloropropane
Samples:	18 Water Samples (see Case Summary)
Collection Date:	August 30 and 31, 2005 and September 1, 2005
Reviewer:	Santiago Lee, ESAT/Laboratory Data Consultants (LDC)

This report has been reviewed by the EPA TOM for the ESAT contract, whose signature appears above.

If there are any questions, please contact Rose Fong (QA Program/EPA) at (415) 972-3812.

Attachment

SAMPLING ISSUES: [ ] Yes [X] No

Data Validation Report – **Tier 2**

Case No.: Not Provided
SDG Nos.: G5H310238, G5I010304, and G5I020389
Site: Omega Chem OU2
Laboratory: STL Sacramento
Reviewer: Santiago Lee, ESAT/LDC
Date: February 21, 2007

I. CASE SUMMARY

Sample Information

Samples:	SDG G5H310238 = OC2-MW4C-W-0-133, OC2-MW4B-W-0-134, OC2-MW4A-W-0-135, OC2-MW4A-2-136, OC2-MW6-W-0-137, OC2-MW6-W-1-138, OC2-MW5-W-0-139, and OC2-MW7-W-0-140 SDG G5I010304 = OC2-MW8D-W-0-141, OC2-MW8C-W-0-142, OC2-MW8B-W-0-143, OC2-MW8A-0-144, OC2-MW9B-W-0-145, and OC2-MW9A-W-0-146 SDG G5I020389 = OC2-MW1A-W-0-147, OC2-MW1B-W-0-148, OC2-MW3-W-0-150, and OC2-MW10-W-0-151
Concentration and Matrix:	Low Concentration Water
Analysis:	N-Nitrosodimethylamine (NDMA) and 1,2,3-Trichloropropane (1,2,3-TCP)
Method:	USEPA Method 1625, Semivolatile Organic Compounds by Isotope Dilution GCMS
Collection Date:	August 30 and 31, 2005 and September 1, 2005
Sample Receipt Date:	August 31, 2005 and September 1 and 2, 2005
Extraction Date:	September 6, 7, and 8, 2005
Analysis Date:	September 7 and 9, 2005

Field QC

Field Blanks (FB):	OC2-MW4A-W-2-136
Equipment Blanks (EB):	Not Provided
Background Samples (BG):	Not Provided
Field Duplicates (D1):	OC2-MW6-W-0-137 and OC2-MW6-W-1-138

Laboratory QC

Method Blanks & Associated Samples:

HJ1991AA:	OC2-MW4C-W-0-133, OC2-MW4B-W-0-134, OC2-MW4A-W-0-135, OC2-MW4A-2-136, OC2-MW6-W-0-137, OC2-MW6-W-1-138, OC2-MW5-W-0-139, and OC2-MW7-W-0-140
HJ31F1AA:	OC2-MW8D-W-0-141, OC2-MW8C-W-0-142, OC2-MW8B-W-0-143, OC2-MW8A-0-144, OC2-MW9B-W-0-145, and OC2-MW9A-W-0-146
HJ6T51AA:	OC2-MW1A-W-0-147, OC2-MW1B-W-0-148, OC2-MW3-W-0-150, and OC2-MW10-W-0-151

Tables

1B: Data Qualifier Definitions for Organic Data Review

Sampling Issues

None.

Additional Comments

As directed by the EPA TOM, a Tier 2 review was performed (review all QC results and calibrations, minus calculation check). Table 1A is not required.

Method specific quality control (QC) limits are used to evaluate the quality of data. For QC where the method does not specify limits, the laboratory QC limits are used.

The laboratory stated in the SDG Narratives that reporting limits for NDMA in samples OC2-MW8B-W-0-143 (3.7 ng/L), OC2-MW8A-W-0-144 (3.8 ng/L), and OC2-MW3-W-0-150 (2.2 ng/L) are above the requested reporting limit of 2 ng/L due to matrix interference. The reviewer noted that reporting limits for NDMA in samples OC2-MW5-W-5-139 (3.0 ng/L), OC2-MW7-W-0-140 (2.4 ng/L) are also above the requested reporting limit of 2 ng/L.

This report was prepared in accordance with the following documents:

- USEPA Office of Water, *Method 1625C: Semivolatile Organic Compounds by Isotope Dilution GCMS*, June 1989;
- ESAT Region 9 Standard Operating Procedure 901, *Guidelines for Data Review of Contract Laboratory Program Analytical Services (CLPAS) Volatile and Semivolatile Data Packages*; and
- *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review*, October 1999.

II. VALIDATION SUMMARY

The data were evaluated based on the following parameters:

	Parameter	Acceptable	Comment
1.	Holding Time/Preservation	Yes	
2.	GC/MS Tune/GC Performance	Yes	
3.	Initial Calibration	Yes	
4.	Continuing Calibration	Yes	
5.	Laboratory Blanks	Yes	
6.	Field Blanks	No	A
7.	Matrix Spike/Matrix Spike Duplicates	N/A	
8.	Laboratory Control Samples/Duplicates	Yes	
9.	Internal Standards/Surrogates	No	B
10.	Compound Identification	Yes	
11.	Compound Quantitation	N/A	
12.	System Performance	Yes	

13. Field Duplicate Sample Analysis Yes

N/A = Not Applicable

III. VALIDITY AND COMMENTS

A. The following result is qualified as nondetected and estimated due to a field blank contamination and should be flagged "U,J".

- NDMA in sample OC2-MW5-W-5-139

NDMA was found in field blank OC2-MW4A-W-2-136 at a concentration of 2.3 ng/L. The result for sample OC2-MW5-W-5-139 (4.5 ng/L) is considered nondetected and estimated (U,J) and the quantitation limit should be raised according to the blank qualification rules presented below.

No positive results are reported unless the concentration of the compound in the sample exceeds 5 times the amount in the associated blank. If the sample result is greater than the reporting limit, the quantitation limit is raised to the sample result and reported as nondetected. If the sample result is less than the reporting limit, the result is reported as nondetected at the reporting limit.

A field blank is clean water prepared as a sample in the field by the sampler and shipped to the laboratory with the samples. A field blank is intended to detect contaminants that may have been introduced in the field, although any laboratory introduced contamination will be present. Contaminants that are found in the field blank which are absent in the laboratory method blank could be indicative of a field QC problem, a deficiency in the bottle preparation procedure, a difference in preparation of the laboratory and field blanks, or other indeterminate error.

B. Results for the following analyte are qualified as estimated due to internal standard/surrogate recoveries outside the QC limit and should be flagged "J".

- NDMA in samples OC2-MW4C-W-0-133, OC2-MW4B-W-0-134, OC2-MW4A-W-0-135, OC2-MW4A-W-2-136, OC2-MW6-W-0-137, OC2-MW6-W-1-138, OC2-MW-5-W-5-139, OC2-MW8D-W-0-141, OC2-MW8B-W-01-143, OC2-MW9B-W-0-145, OC2-MW1A-W-0-147, and OC2-MW10-W-0-151 and method blank HJ6T51AA

Internal standard/surrogate recoveries fell below the QC limit are shown below.

Sample	Internal Standard	% Recovery	QC Limits
OC2-MW4C-W-0-133	NDMA-d6	20	25 – 150
OC2-MW4B-W-0-134	NDMA-d6	24	25 - 150
OC2-MW4A-W-0-135	NDMA-d6	23	25 - 150
OC2-MW4A-W-2-136	NDMA-d6	22	25 - 150

OC2-MW6-W-0-137	NDMA-d6	20	25 - 150
OC2-MW6-W-1-138	NDMA-d6	20	25 - 150
OC2-MW5-W-5-139	NDMA-d6	23	25 - 150
HJ1991AC-LCS	NDMA-d6	23	25 - 150
OC2-MW8D-W-0-141	NDMA-d6	17	25 - 150
OC2-MW8B-W-0-143	NDMA-d6	22	25 - 150
OC2-MW9B-W-0-145	NDMA-d6	24	25 - 150
OC2-MW1A-W-0-147	NDMA-d6	24	25 - 150
OC2-MW10-W-0-151	NDMA-d6	22	25 - 150
HJ6T51AA	NDMA-d6	22	25 - 150
HJ6T51AC-LCS	NDMA-d6	24	25 - 150

Results for the affected analytes are considered quantitatively questionable. Where sample results are nondetected, false negatives may exist.

TABLE 1B

DATA QUALIFIER DEFINITIONS FOR ORGANIC DATA REVIEW

The definitions of the following qualifiers are prepared according to the document, "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review," October 1999.

U	The analyte was analyzed for but was not detected above the reported sample quantitation limit.
L	Indicates results which fall below the Contract Required Quantitation Limit. Results are estimated and are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
UJ	The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.